ABSTRACT

A MAC (Medium Access Control) control block for controlling transmission of data between a plurality of MAC clients and a plurality of MACs in an Ethernet passive optical network (EPON) is provided. The MAC control block includes the plurality of

5 MAC clients and the plurality of MACs associated with the MAC clients for forming a frame for data transmission; a plurality of optical multipoint (OMP) blocks connected between the MAC clients and the MACs for implementing a multipoint control protocol (MPCP); and a multipoint gating control block for controlling the OMP blocks so that when any one of the OMP blocks is transmitting the data, the other OMP blocks are

10 prevented from transmitting data.